Southern Nuclear

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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC 2.2.03.08c.ii [Index Number 181]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.03.08c.ii [Index Number 181], for verifying the piping flow resistance from the cold leg to each core makeup tank (CMT). The closure process for this ITAAC is based on the guidance described in NEI-08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52", which is endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,

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Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4 ITAAC Completion of ITAAC 2.2.03.08c.ii [Index Number 181]

JMC/DLW/sfr

cc: Regional Administrator, Region ll
Director, Office of Nuclear Reactor Regulation (NRR)
Director, Vogtle Project Office NRR
Senior Resident Inspector – Vogtle 3 & 4

Southern Nuclear Operating Company
ND-23-0039
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.2.03.08c.ii [Index Number 181]

ITAAC Statement

Design Commitment

8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.

Inspections/Tests/Analyses

ii) A low-pressure test and analysis will be conducted for each CMT to determine piping flow resistance from the cold leg to the CMT. The test will be performed by filling the CMT via the cold leg balance line by operating the normal residual heat removal pumps.

Acceptance Criteria

ii) The flow resistance from the cold leg to the CMT is ≤ 7.21×10^{-6} ft/gpm^2.

ITAAC Determination Basis

Multiple ITAAC are performed to verify that the Passive Core Cooling System (PXS) provides Reactor Coolant System (RCS) makeup, boration, and safety injection during design basis events. This ITAAC performs a low-pressure injection test and analysis from the RCS cold leg through each Core Makeup Tank (CMT) balance line to demonstrate that the calculated flow resistance meets acceptance criteria.

Performance tests were conducted in accordance with the Unit 4 preoperational test procedure 4-PXS-ITPP-503 (Reference 1) which demonstrated that the flow resistance in each CMT balance line via the RCS cold leg was ≤ 7.21×10^{-6} ft/gpm^2.

Initial conditions were established with the RCS filled and the pressurizer water solid. Temporary flow instruments were installed on the CMT balance line (inlet line), differential pressure instruments were installed between the RCS and the CMT, and pressure instruments were installed on the RCS and the CMT. All instruments were connected to a Data Acquisition System (DAQ). Both trains of Normal Residual Heat Removal System (RNS) were in service, the CMT A inlet Motor-Operated Valve (MOV) was opened, and RNS was aligned to inject to the RCS. The CMT began to fill and the test was terminated when CMT A upper narrow range instruments were greater than 20% level by closing the CMT A inlet MOV and removing the RNS from service. The data was collected, and an analysis of the data provided a calculation for flow resistance for CMT A. This testing and analysis were repeated for CMT B and provided a calculation for flow resistance for CMT B.

The flow resistance for each cold leg to the CMT was calculated to be 6.45×10^{-6} ft/gpm^2 (CMT A) and 5.42×10^{-6} ft/gpm^2 (CMT B) (References 3 and 4). The Unit 4 test results were documented in Reference 2 and confirmed that the calculated flow resistance between each CMT and the RCS cold leg balance line met the ITAAC acceptance criteria.

References 2 through 4 are available for NRC inspection as part of the Unit 4 ITAAC 2.2.03.08c.ii Completion Package (Reference 5).

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found there were no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.2.03.08c.ii (Reference 5) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.08c.ii was performed for VEGP Unit 4 and that the prescribed acceptance criteria were met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

References (available for NRC inspection)

1. 4-PXS-ITPP-503-V1.0-0.4, “TPC for Passive Core Cooling System Pre-Core Flow Testing with RV Head Installed Preoperational Test Procedure”
2. SV4-PXS-T0W-1191260, Rev. 0, “(ITAAC) Perform Preop Test IAW 4-PXS-ITPP-503”
3. SV4-PXS-T2R-006, Rev. 0, “Vogtle Unit 4 4-PXS-ITPP-503 Section 4.4 & 4.5 CMT Cold Leg Balance Line Test Engineering Report”
4. SV4-PXS-T2C-006, Rev. 0, “Vogtle Unit 4 4-PXS-ITPP-503 Section 4.4 & 4.5 CMT Cold Leg Balance Line Flow Resistance Test Calculation”
5. 2.2.03.08c.ii-U4-CP-Rev0, ITAAC Completion Package